

## Title (en)

A WIND TURBINE AND A METHOD OF OPERATING A WIND TURBINE WITH A ROTATIONAL SPEED EXCLUSION ZONE

## Title (de)

WINDTURBINE UND VERFAHREN ZUM BETRIEB EINER WINDTURBINE MIT EINEM DREHZAHLAUSSCHLUSSBEREICH

## Title (fr)

ÉOLIENNE ET PROCÉDÉ DE FONCTIONNEMENT D'ÉOLIENNE AYANT UNE ZONE D'EXCLUSION DE VITESSE DE ROTATION

## Publication

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## Application

**EP 16840861 A 20160815**

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## Abstract (en)

[origin: WO2017036481A1] The present invention relates to a wind turbine (1) and a method of operating a wind turbine with at least one rotational speed exclusion zone (18, 19), wherein the wind turbine (!) comprises a wind turbine control system (10) monitoring the vibrations of the wind turbine tower (2) and the rotational speed of the rotor. The wind turbine control system (10) controls the rotational speed of the rotor based on the measured vibration level (13), wherein the control system (10) uses the at least one exclusion zone (18, 19) to avoid rotational speeds that coincide with the eigenfrequency (14) of the wind turbine tower (2). The at least one exclusion zone (18, 19) has a variable width, which is determined based on the measured vibration level ( 13) so that resonance in the wind turbine tower (2) is avoided while minimizing the power loss.

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## Citation (opposition)

Opponent : Vestas Wind Systems A/S,

- WO 2013097863 A1 20130704 - VESTAS WIND SYS AS [DK]
- US 2013177418 A1 20130711 - HANSEN MARCO [DE], et al
- US 2009110540 A1 20090430 - BYWATERS GARRETT LEE [US]
- DE 10016912 C1 20011213 - AERODYN ENG GMBH [DE]

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